Soil evaluation for land use optimizing

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Abstract

© Published under licence by IOP Publishing Ltd. The article presents the method of soil classification proposed in the course of the study in which the list of indicators proposed by the existing recommendations is optimized. On the example of one of the river basins within the boundaries of the Belgorod region zoning of the territory was carried out. With this approach, the boundaries of the territorial zones are projected along the natural boundaries of natural objects and the productivity of soils is determined as the main criterion for zoning. To assess the territory by soil properties, the features of the soil cover of the river basin were studied and vectorization of the soil variety boundaries was carried out. In the land evaluation essential and useful for the growth of crops macro- and minor-nutrient elements necessary for the growth of crops were included. To compare the soils each of the indicators was translated into relative units. The final score of soil quality is calculated as the mean geometric value of scores from 0 to 100 points for the selected diagnostic features. Through the imposition of results of soil classification and proposed by the concept of basin nature management - land management activities, five zones were identified according to the degree of suitability for use in agriculture.

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